**Math 1310 –** *Technical Math for IT*

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**ASSIGNMENT 7** Set:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Due:** Dec 1st, 11:59 PM, online submission, one pdf file This is how I mark this assignment:

50 percent: I scan all the questions to see if they are solved or not. 50 percent: I select one or two randomly and mark them in details.

**Question 1:** *(10 marks)* Solve the linear system:

For x, y and z using

(a) the Gauss-Jordan method. Be sure to show which row operation you are performing at each step.

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**Question 2:** *(8 marks)*

Given the matrix

1 2 3

*A*=2 3 4 1 5 7

1. Determine the inverse matrix **A**-1.
2. Confirm that your answer to part (a)

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**Question 3:** *(8 marks)*

Solve the following system of linear equations using matrix inverse method

2*x y*+ − =2 10*z*  *y*+10*z*=−28

3 16*y*+ *z*=−42

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**Question 4:** *(9 marks)*

Determine the values of “*a* “ so that the following system in unknowns x, y and z has

1. A unique solution
2. More than one solutions

Also, can you find a value “*a* “ that the system has no solution? Why?

*x y z*+ + =0

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Description automatically generated*2 3*x*+ + =*y az* 0 *x ay*+ + =3 0*z*